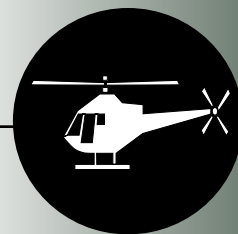


HELICOPTERS USED AS LIFTING MACHINES



Chapter 296-829 WAC

September 2004 Edition

**Washington Industrial
Safety & Health Act**

Standards Update to

Chapter 296-829 WAC, Helicopters Used as Lifting Machines

Issue Date 9/2004
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The Department of Labor and Industries has rewritten and reorganized for clarity and ease of use the safety standards for helicopters used as lifting machines. The helicopter rules, in WAC 296-24-260, WAC 296-155-575, and WAC 296-576 were rewritten and adopted as chapter 296-829 WAC. **Please discard WAC 296-24-260, WAC 296-155-575, and WAC 296-576.**

To receive future updates of this standard and all other Department of Labor and Industries safety and health standards electronically, please sign up on the WISHA Listserv (<http://www.lni.wa.gov/Safety/Rules/default.htm>). By subscribing to the Listserv, you will also receive rule updates, hearing notices, and informational packets for all safety and health rules.

Also available on the WISHA web site:

- WISHA Core Rules
- Other General WISHA Rules
- Industry and Task-specific Rules
- Proposed rules and hearings
- Newly adopted rules and new rule information
- WISHA Regional Directives (WRDs)
- WISHA Interim Operations and Interpretive Memoranda (WIIM)
- Memoranda of Understanding (MOU)

To receive hardcopy updates of this rule, please return the card located at the back of the book.

Helicopters Used as Lifting Machines

Chapter 296-829 WAC

Other Rules that may apply to your workplace

- The WISHA Safety and Health Core Rules, Chapter 296-800 WAC, contain the basic requirements that apply to most employers in Washington. They also contain:
 - An Introduction that lists important information you should know, including a section on building, fire and electrical codes.
 - A Resource section that includes a complete list of all WISHA rules and a directory of the Labor and Industries (L&I) offices.
- Other WISHA rules may apply to you, depending on the activities and operations of your workplace. Also, see the Scope of this rule for specific rules that apply to helicopters used as lifting machines. Contact your local L&I office if you're uncertain about which WISHA requirements apply to you.
- To go online to access all the Safety and Health Rules: <http://www.lni.wa.gov/wisha>
- If you would like to receive e-mail notification of rule updates, please register for the Standards Listserv on the WISHA web site at <http://www.lni.wa.gov/home/listservs.htm>
- For a CD or paper copy contact us by:

Mail: Department of Labor and Industries
P.O. Box 44620
Olympia, WA 98504-4620

Telephone: 1-800-4BE-SAFE (1-800-423-7233)

<http://www.lni.wa.gov/>



Helicopters Used as Lifting Machines

Chapter 296-829 WAC

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Helicopters Used as Lifting Machines

WAC 296-829-100

Scope

Chapter 296-829 WAC applies to helicopters when used to carry loads, suspended with a cargo sling, powered hoist, or other attaching methods.



Exemption:

This chapter doesn't apply to the use of helicopters:

- In the logging industry
- For rescue operations when a winch or hoist is used.



Notes

Design and Installation Requirements for Helicopters

WAC 296-829-200

Summary

YOUR RESPONSIBILITY:

To make sure your helicopters meet design specifications and are equipped properly

You must

Follow Federal Aviation Administration (FAA) requirements	
WAC 296-829-20005	200-2
Install and test hooks on helicopters correctly	
WAC 296-829-20010	200-2



Design and Installation Requirements for Helicopters

WAC 296-829-200

Rule

WAC 296-829-20005

Follow Federal Aviation Administration (FAA) requirements

You must

- Make sure helicopter cranes and their use meet the applicable requirements of the Federal Aviation Administration (FAA).

WAC 296-829-20010

Install and test hooks on helicopters correctly

You must

- Make sure electrically operated cargo hooks are:
 - Designed and installed to prevent accidental operation
 - Equipped with an emergency mechanical control to release the load.
- Make sure a competent person tests all hooks before each day's operation to make sure both the electrical and mechanical releases work properly.



Maintenance

WAC 296-829-300

Summary

YOUR RESPONSIBILITY:

To keep helicopters in safe operating condition

You must

Keep landing and deposit areas safe
WAC 296-829-30005 300-2

Follow safe refueling procedures
WAC 296-829-30010 300-3



Maintenance

WAC 296-829-300

Rule

WAC 296-829-30005

Keep landing and deposit areas safe

You must

- (1) Make sure precautions are taken to prevent loose objects from being caught in the downwash and flying around.
 - Secure or remove all loose gear:
 - Within 100 feet of lift and deposit areas
 - In all other areas affected by rotor downwash.
- (2) Make sure employees don't work under hovering craft, except where necessary to hook or unhook loads.
- (3) Make sure safe access and exit, including an emergency escape route, is provided for employees who hook or unhook loads.
- (4) Prohibit open fires in any area that could be affected by the rotor downwash.
- (5) Make sure unauthorized people don't go within 50 feet of the helicopter when the rotor blades are turning.
- (6) Make sure all employees:
 - Stay in full view of the pilot, in a crouched position, when approaching or leaving a helicopter with rotating blades
 - Stay away from the area behind the cockpit or cabin unless the operator authorizes them to work there.
- (7) Take precautions to eliminate reduced visibility.
- (8) Make sure ground personnel take special care to stay clear of rotors when visibility is reduced by dust or other conditions.



WAC 296-829-30010

Follow safe refueling procedures

You must

- Make sure refueling areas are safe.
 - Post "NO SMOKING" signs at all entrances to the refueling area.
 - Provide at least one 30-pound fire extinguisher, or a combination totaling 30 pounds, good for class A, B, and C fires, within 100 feet on the upwind side of the refueling operation.



Reference:

For additional requirements relating to portable fire extinguishers, see WAC 296-800-300 in the Safety and Health Core Rules.

You must

- Make sure workers involved in refueling are trained in both:
 - The refueling operation

and

 - The use of fire extinguishing equipment they may need.
- Make sure the following precautions are taken before and during refueling:
 - Keep unauthorized people at least 50 feet away from the refueling operation or equipment
 - Prohibit smoking and open flames within 50 feet of the refueling area or fueling equipment
 - Make sure helicopter engines are shut down before refueling, if using aviation gasoline or jet B type fuel
 - Pump fuel, either by hand or power.

-Continued-



Maintenance

WAC 296-829-300

Rule

WAC 296-829-30010 (Continued)

You must

- Use self-closing nozzles or deadman controls:
 - Don't allow these to be blocked open
- Make sure nozzles aren't dragged along the ground.
- Make sure the helicopter and the fueling equipment are grounded.
- Electrically bond the fueling nozzle to the helicopter:
 - Don't use conductive hose for this bonding.
- Make sure all grounding and bonding connections are:
 - Electrically and mechanically firm
 - On clean unpainted metal parts.
- Stop fueling **immediately** if there's a spill:
 - Don't continue operation until the person in charge has determined it's safe.



Operating the Helicopter

WAC 296-829-400

Summary

YOUR RESPONSIBILITY:

To make sure helicopters are operated safely

You must

Hold daily briefings WAC 296-829-40005	400-2
Make sure employees are dressed correctly WAC 296-829-40010	400-2
Make sure loads are attached correctly WAC 296-829-40015	400-3
Make sure the load is handled correctly WAC 296-829-40020	400-4





Operating the Helicopter

WAC 296-829-400

Rule

WAC 296-829-40005

Hold daily briefings

You must

- Make sure the helicopter pilot and ground personnel hold a briefing before each day's operation to discuss cargo-handling plans.

WAC 296-829-40010

Make sure employees are dressed correctly

You must

- Make sure employees receiving the load:
 - Do **not** wear loose-fitting clothes that could snag on the hoist line.
 - Wear personal protective equipment (PPE), including complete eye protection and hard hats that are secured by chin straps.



Reference:

For other requirements relating to PPE, see WAC 296-800-160 in the Safety and Health Core Rules.

Operating the Helicopter

WAC 296-829-400

Rule

WAC 296-829-40015

Make sure loads are attached correctly

You must

- Make sure loads are properly slung so tag lines can't be drawn up into rotors.
- Make sure precautions are taken on all freely suspended loads to keep hand splices from spinning open or cable clamps from loosening, such as using pressed sleeves or swedged eyes.
- Make sure the weight of the load doesn't exceed the manufacturer's load ratings.
- Make sure hoist wires and other gear are **not** attached to or allowed to catch on any fixed structure.



Exemption:

This requirement doesn't apply to pulling lines or conductors that "pay out" from a container or reel.





Operating the Helicopter

WAC 296-829-400

Rule

WAC 296-829-40020

Make sure the load is handled correctly

You must

- Make sure signal systems, whether radio or hand signals, are checked before hoisting the load:
 - When using hand signals, use those shown in Figure 1.
- Make sure workers on the ground do **either** of the following before touching the suspended load:
 - Use a ground device to safely discharge any static charge
 - or**
 - Put on and wear rubber gloves.
- Make sure there are enough employees for safe loading and unloading operations.
- Make sure constant communications are maintained between the pilot and signal person:
 - The signal person must be distinctly recognizable from other ground personnel.

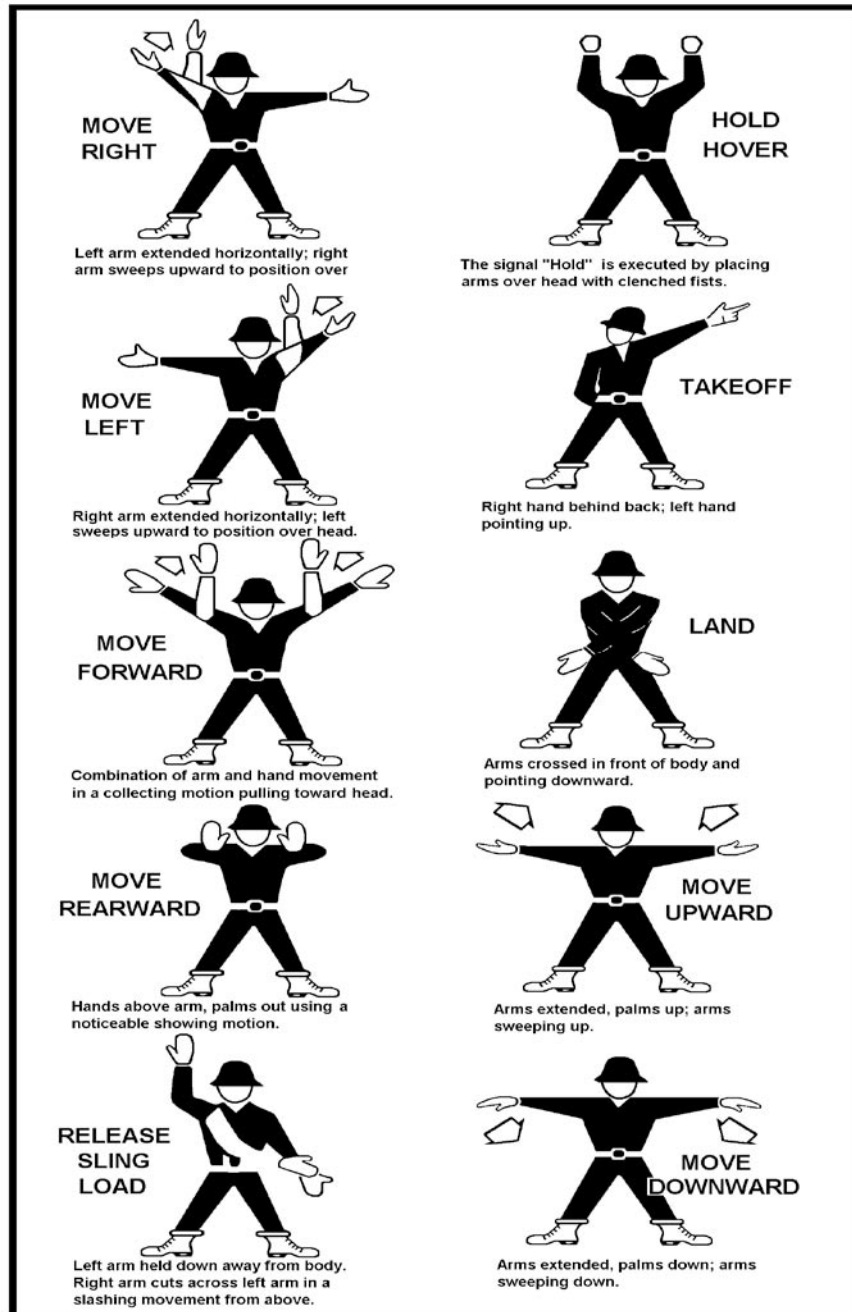
Operating the Helicopter

WAC 296-829-400

Rule

WAC 296-829-40020 (Continued)

Figure 1
Helicopter Hand Signals



Notes

Helicopters Used as Lifting Machines

WAC 296-829-500

Definitions

Aviation gasoline

Gasoline fuel for reciprocating piston engine helicopters, also known as avgas.

Cargo hook

A device attached to a helicopter that's used to hold suspended loads.

Competent person

One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Deadman controls

A control, switch or device that will automatically shut off whenever the operator releases it.

Deposit area

An area that's designated for dropping off and picking up suspended loads.

Downwash

The wind created by the rotating blades of a helicopter.

Ground device

A device used to dissipate the static electricity charge that has built up on a suspended load.

Helicopter crane

A helicopter that carries cargo or equipment suspended underneath it.



Helicopters Used as Lifting Machines

WAC 296-829-500

Definitions

WAC 296-829-500 (Continued)

Jet A type fuel

A kerosene grade fuel suitable for helicopters with turbing engines.

Jet B type fuel

A blend of gasoline and kerosene fuel.

Powered hoist

A powered device designed to lift and lower equipment and cargo.

Tag line

A line or rope used to control suspended loads that can swing freely.



Helicopters Used as Lifting Machines

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Helicopters Used as Lifting Machines

Chapter 296-829 WAC

Statutory Authority

296-829-100 Scope.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-100, filed 04/20/04, effective 09/01/04.]

296-829-200 Design and installation requirements for helicopters.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-200, filed 04/20/04, effective 09/01/04.]

296-829-20005 Follow Federal Aviation Administration (FAA) requirements.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-20005, filed 04/20/04, effective 09/01/04.]

296-829-20010 Install and test hooks on helicopters correctly.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-20010, filed 04/20/04, effective 09/01/04.]

296-829-300 Maintenance.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-300, filed 04/20/04, effective 09/01/04.]

296-829-30005 Keep landing and deposit areas safe.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-30005, filed 04/20/04, effective 09/01/04.]

296-829-30010 Follow safe refueling procedures.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-30010, filed 04/20/04, effective 09/01/04.]

Helicopters Used as Lifting Machines

Chapter 296-829 WAC

Statutory Authority

296-829-400 Operating the helicopter.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-400, filed 04/20/04, effective 09/01/04.]

296-802-40005 Hold daily briefings.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-40005, filed 04/20/04, effective 09/01/04.]

296-829-40010 Make sure employees are dressed correctly.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-40010, filed 04/20/04, effective 09/01/04.]

296-829-40015 Make sure loads are attached correctly.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-40015, filed 04/20/04, effective 09/01/04.]

296-829-40020 Make sure the load is handled correctly.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-40020, filed 04/20/04, effective 09/01/04.]

296-829-500 Definitions.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 04-09-009 (Order 03-28), § 296-829-500, filed 04/20/04, effective 09/01/04.]